

Claims:

comprising:

1. A replacement package for the repair of a damaged ligament
- 5 a graft comprising a graft material having a proximal end and a distal end, a first set of sutures attached to the proximal end, and a second set of sutures attached to the distal end,
- wherein the graft is preserved and provided in sterile packaging.
2. The graft package of claim 1 wherein the graft material is selected
- 10 from the group consisting of allograft, xenograft, and synthetic material.
3. The graft package of claim 2 wherein the graft material is allograft and selected from the group consisting of patellar tendon, semitendinosus tendon, gracilis tendon, quadriceps tendon, Achilles' tendons, flexor tendons, extensor tendons, or fascia lata.
- 15 4. The graft package of claim 1 wherein the graft material comprises a bundle of strands, the first set of sutures securing the proximal end together, and the second set of sutures securing the distal end together.
5. The graft package of claim 1 wherein the first and second set of sutures comprise long strand sutures for aiding in subsequent placement of the graft into a
- 20 patient.
6. The graft package of claim 1 wherein the first and second set of sutures each comprise whip stitch sutures, bundle sutures, and long strand sutures.
7. The graft package of claim 1 wherein the graft is provided with a bone plug secured to the proximal end.
- 25 8. The graft package of claim 7 wherein the first set of sutures secure the bone plug to the proximal end.
9. The graft package of claim 8 wherein portions of the first set of sutures extend completely through the bone plug to secure the bone plug to the graft material.
- 30 10. The graft package of claim 7 further comprising a second bone plug secured to the distal end of the replacement ligament

11. The graft package of claim 10 wherein the bone plugs are selected from a group consisting of allograft, xenograft, and synthetic material.

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12. A prepackaged sterile replacement ligament comprising:
a graft comprising a bundle of graft material strands, the bundle having a proximal end and a distal end, a first set of sutures securing a first bone plug to the proximal end, a second set of sutures securing a second bone plug secured to the distal end,

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wherein the graft is preserved and provided in sterile packaging.

13. The replacement ligament of claim 12 wherein the bundle is formed by at least one strand looped back on itself.

14. The replacement ligament of claim 12 wherein the graft is preserved by freezing.

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15. The replacement ligament of claim 12 wherein the graft is preserved by lyophilization.

16. A method of preparing a convenient replacement graft package for use in repairing a damaged ligament, the method comprising the steps of

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harvesting a piece of graft material and removing extraneous tissue;

washing the harvested piece of graft material;

cutting and shaping the piece of graft material to proper size, defining a proximal end and a distal end;

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assembling the replacement graft by attaching a first set of sutures to the proximal end and attaching a second set of sutures to the distal end;

preserving the replacement graft; and

packaging the replacement graft in a sterile container.

17. The method of claim 16 wherein the assembling step further comprises attaching a first bone plug to the proximal end of the piece graft material.

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18. The method of claim 17 wherein the assembling step further comprises attaching a second bone plug to the distal end of the graft material.

19. The method of claim 16 wherein the cutting and shaping step further comprises looping the piece of graft material back upon itself.

20. The method of claim 16 wherein the washing step includes using a solution comprising ALLOWASH™ solution, isopropyl alcohol, and antibiotic solution.

21. The ^{method} solution of claim 20 wherein the antibiotic solution comprises at least one of the group consisting of antibiotics, antiviral agents, hydrogen peroxide, permeation enhancers, organic acids, and dilute solutions of strong acids.

22. The ^{method} solution of claim 20 wherein the antibiotic solution comprises a mixture of bacitracin and polymyxin.

23. The method of claim 16 wherein the packaging step includes placing the graft in a bottle, the preserving step includes lyophilization and the graft is placed in the bottle prior to lyophilization.

24. The method of claim 23 wherein the packaging step further comprises stoppering the bottle under vacuum following lyophilization.

25. The method of claim 16 wherein the preserving step comprises freezing and the packaging step comprises placing the graft in a peelable soft package, removing air by suction, heat-sealing the package, and freezing the package.

26. The method of claim 25 wherein the packaging step further comprises placing the peelable soft package into a second larger package.

27. The method of claim 25 wherein the package is irradiated prior to freezing.

28. The method of claim 16 further comprising the step of placing the graft under tension prior to the preserving step.

29. A method for repairing a damaged cruciate ligament, said method comprising the steps of

preparing a knee of a patient to accept a cruciate ligament replacement graft including drilling a tibial tunnel and a femoral tunnel;

choosing a prepared graft of appropriate size, the prepared graft comprising a length of graft material having a proximal end and a distal end, a first set of sutures attached to the proximal end, and a second set of sutures attached to the distal end, wherein the prepared graft is provided in sterile packaging;

removing the graft from the packaging;

inserting the graft into the prepared femoral and tibial tunnels;

fixing the graft in the femoral tunnel; and

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fixing the graft in a tibial tunnel.

30. The method of claim 29 wherein the removing step includes thawing the replacement ligament graft prior to insertion.

31. The method of claim 29 wherein the removing step includes
5 reconstituting the replacement ligament graft prior to insertion.

32. The method of claim 29 wherein the graft further comprises a proximal bone plug.

33. The method of claim 32 wherein the graft further comprises a distal bone plug.

10 34. The method of claim 29 wherein the fixing steps comprise using fixation devices selected from the group consisting of interference screws, cross-pins, tab-loop anchors, and screws and washers.

15 ~~35. A kit for replacing a damaged ligament in a patient comprising a sterile packaged prepared replacement ligament having pre-attached sutures for aiding in insertion into the patient, and a graft fixation device.~~

36. The kit of claim 35 wherein the graft fixation device is selected from the group consisting of interference screws, cross pins, tab-loop anchors, and screws and washers.

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